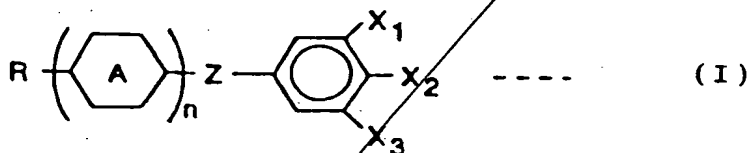


WHAT IS CLAIMED IS:

- SUB A1 1. A liquid crystal composite material for use in a liquid crystal layer of a liquid crystal display device having a pair of substrates with the liquid crystal layer interposed therebetween, and an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of substrates;

wherein said liquid crystal composite material includes a liquid chemical compound represented by a general chemical formula (I)



wherein in the formula (I), X_1 , X_2 and X_3 are selected from a group consisting of fluoro group, cyano group, trifluoromethyl group, trifluoromethoxyl group, nitro group and hydrogen atom, not all three X_1 , X_2 and X_3 being a hydrogen group; R is selected from a group consisting of alkyl group and alkoxy group having the carbon number 1 to 10 which can be substituted; Ring A is selected from a group consisting of cyclohexane ring, benzene ring, dioxane ring, pyrimidine ring, and [2, 2, 2]-bicyclohexane ring, Z is selected from a group consisting of single bonding, ester bonding, ether bonding, methylene, and ethylene; and n is 1 or 2.

- SUB D1 2. A liquid crystal composition material according to

claim 1, wherein X_2 is a ~~cyano~~ ^{cyano} group.

SUB 2 3. A liquid crystal composite material according to claim 1, wherein a relation between an elasticity constant K_2 and a dielectric anisotropy $\Delta\epsilon$ of said liquid crystal composite material satisfies the relation

5 $K_2/\Delta\epsilon < 9 \times 10^{-8} [\text{dyn}]$.

SUB 2 4. A liquid crystal composite material for use in a liquid crystal layer of a liquid crystal display device having a pair of substrates with the liquid crystal layer interposed therebetween, and an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of said substrates;

wherein said liquid composite material has a resistivity which is no greater than $1 \times 10^{13} \Omega \cdot \text{cm}$ and not less than $1 \times 10^9 \Omega \cdot \text{cm}$.

5. A liquid crystal composite material according to claim 4, wherein a relation between an elasticity constant K_2 and a dielectric anisotropy $\Delta\epsilon$ of said liquid composite material satisfies the relation $K_2/\Delta\epsilon < 9 \times 10^{-8} [\text{dyn}]$.

*add
A3
F2*